What is claimed is:

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1. A method of receiving data from a network, comprising:

issuing a receive request directing a transfer of data from one of a plurality of device ports to a buffer memory and specifying a thread from among a plurality of processing program threads to process the data.

2. The method of claim 1, further comprising:

determining if any of the plurality of device ports coupled to the network require service.

3. The method of claim 2, further comprising:

transferring the data to the buffer memory and signaling to the specified program thread that the data is ready for processing.

4. The method of claim 2, wherein determining comprises:

interrogating the plurality of device ports to identify which of the plurality of device ports require service.

5. The method of claim 4, wherein determining further comprises:

preparing control information corresponding to those device ports identified as requiring service.

6. The method of claim 5, wherein the control information comprises receive ready flags each associated with a device port receive FIFO in a corresponding one of the device ports.

7. The method of claim 6, wherein interrogating comprises:

polling the state of the ready flags to determine if the ready flags are asserted, the assertion of the ready flags indicating that the corresponding device ports have data ready for transfer.

8. The method of claim 7, wherein the receive ready flags indicate that the associated device port receive FIFO has reached a threshold level of fullness.

9. The method of claim 8, wherein the receive ready flags indicate that the associated device port receive FIFO stores a full network packet.

10. The method of claim 5, further comprising:

maintaining a receive ready count, the receive ready count being incremented when the control information is prepared.

11. The method of claim 5,wherein preparing control information further comprises:

writing a flag to a control and status register for each device port in the plurality of device ports that is determined to require service.

12. The method of claim 11, wherein issuing comprises:

obtaining the control information from the control and status register; and

selecting from each device port in the plurality of device ports having set bits in the control and status register a port for servicing.

13. The method of claim 12, wherein issuing further

comprises:

determining which among the plurality of program threads is available; and

assigning an available program thread to the selected port.

14. The method of claim 12, wherein selecting a port comprises:

using the receive ready count to determine if the ready flags reflect current status of the device port.

15. The method of claim 3, further comprising:

maintaining a receive request count for counting transfer of data to the buffer memory, the receive request count being incremented by one upon the transfer of the data to the buffer memory and signaling to the specified program thread.

16. The method of claim 15, wherein selecting a port further comprises:

using the receive request count to determine if the ready flags reflect current status of the device ports.

~~17. A method of receiving data from a plurality of peripheral ports, comprising:~~

~~determining that the one of the plurality of peripheral ports requires servicing;~~

~~issuing a receive request based on the determination, the receive request directing the transfer of data from the one of the plurality of peripheral ports to a buffer memory and specifying a program thread from among of a plurality of processing program threads to process the data; and~~

~~transferring the data to the buffer memory and signaling to the specified thread that the data is ready for processing.~~

~~18. An article comprising a computer-readable medium which stores computer-executable instructions for receiving data from a plurality of ports, the instructions causing a computer to:~~

~~issue a receive request directing a transfer of data from one of a plurality of device ports to a buffer memory and specifying a program thread from among a plurality of processing program threads to process the data.~~

~~19. The article of claim 18, the article further~~

comprises instructions causing a computer to:

determine if any of the plurality of device ports coupled to the network require service.

20. The article of claim 19, the article further comprises instructions causing a computer to:

transfer the data to the buffer memory and signal to the specified program thread that the data is ready for processing.

21. The article of claim 19, wherein the instructions to determine comprise instructions causing a computer to:

interrogate the plurality of device ports to identify which of the plurality of device ports require service; and

prepare control information corresponding to those device ports identified as requiring service.

22. The article of claim 21, the article further comprises instructions causing a computer to:

maintain a receive ready count, the receive ready count being incremented when the control information is prepared.

23. The article of claim 22, wherein the instructions to

issue comprise instructions causing a computer to:

use the receive ready count to check the current status of the device port.

24. The article of 19, the article further comprises instructions causing a computer to:

maintain a receive request count for counting transfer of data to the buffer memory, the receive request count being incremented by one upon the transfer of the data to the buffer memory and signaling to the specified program thread.

25. The article of claim 24, wherein the instructions to issue comprise instructions causing a computer to:

use the receive request count to check the current status of the device ports.

26. A network processor comprising:

a microengine for executing threads, the threads including a receive scheduler program thread and receive processing program threads; and

the receive scheduler thread assigning a port to one of the receive processing program threads if the port has available data.

~~27. The network processor, further wherein the receive scheduler program thread directs transfer of the data to the assigned one of the receive processing program threads for processing.~~

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~~28. The network processor, further comprising:~~

~~an interface coupled to the microengine for receiving data from the port, the interface for indicating to the receive scheduler program thread whether the port has data available for processing by one of the receive processing program threads.~~

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